SMT3.5
Operating and Assembly Instructions
For

SNAPPER®

Front Tine Tiller

THIS MACHINE IS CAPABLE OF INFLICTING SERIOUS INJURY IF OPERATED IMPROPERLY, READ WARNING & CAUTION LABELS

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FORM SMT693

⚠ WARNING

TO AVOID INJURY

- **READ THE OPERATOR'S MANUAL.**
- **KNOW LOCATION AND FUNCTION OF ALL CONTROLS.**
- **KEEP ALL SAFETY DEVICES AND SHIELDS IN PLACE.**
- **NEVER ALLOW CHILDREN OR UNINSTRUCTED ADULTS TO OPERATE TILLER.**
- **SHUT OFF ENGINE AND DISCONNECT SPARK PLUG WIRE BEFORE UNCLOGGING TINES OR MAKING REPAIRS.**
- **KEEP BYSTANDERS AWAY FROM MACHINE.**
- **KEEP AWAY FROM ROTATING PARTS.**

Part No. 091-0069

⚠ WARNING

KEEP AWAY FROM ROTATING TINES. ROTATING TINES WILL CAUSE INJURY.

Part No. 091-0070

OPERATING INSTRUCTIONS

STARTING:

1. Adjust or remove wheel assembly.
2. Adjust drag bar for desired depth.
3. Stand between handlebars.
4. Allow clutch lever to drop into disengaged position.
5. Move throttle lever to choke position.
6. Hold left handlebar with left hand.
7. Pull starter rope with right hand.
8. As engine starts move throttle lever from choke to desired speed position.

STOPPING: Move throttle lever to stop position.

TILLING: Squeeze clutch lever to start tilling.

Release lever to stop tilling.

Part No. 091-0067

⚠ WARNING

DO NOT START ENGINE UNLESS BELT COVER IS ATTACHED. KEEP HANDS, FEET AND CLOTHING AWAY FROM MOVING BELTS AND PULLEYS. FAILURE TO COMPLY COULD RESULT IN PERSONAL INJURY. SEE OWNER/OPERATOR MANUAL FOR FULL SAFETY INSTRUCTIONS.

⚠ WARNING

HOT SURFACES CAN CAUSE SEVERE BURNS. DO NOT TOUCH MUFFLER OR ADJACENT AREAS.

Part No. 091-0071

TRAINING

1) Read the operating and services instruction manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly.

2) Never allow children to operate the equipment. Never allow adults to operate the equipment without proper instruction.

3) Keep the area of operation clear of all persons, particularly small children, and pets.

PREPARATION

1) Thoroughly inspect the area where the equipment is to be used and remove all foreign objects.

2) Disengage clutch before starting the engine (motor).

3) Do not operate the equipment without wearing adequate outer garments. Wear footwear that will improve footing on slippery surfaces.

4) Handle fuel with care; it is highly flammable. Refer to engine manual for safety and service instructions.

5) Never attempt to make any adjustments while the engine (motor) is running (except where specifically recommended by the manufacturer).

OPERATION

1) Do not put hands or feet near or under rotating parts.

2) Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards of traffic. Do not carry passengers.

3) After striking a foreign object, stop the engine (motor), remove the wire from the spark plug, thoroughly inspect the tiller for any damage before restarting and operating the tiller.

4) Exercise caution to avoid slipping or falling.

5) If the unit should start to vibrate abnormally, stop the engine (motor) and check immediately for the cause. Vibration is generally a warning of trouble.

6) Stop the engine (motor) when leaving the operating position, before unclogging the tines, and when making any repairs, adjustments, and inspections.

7) Take all possible precautions when leaving the machine unattended. Release the clutch lever and stop the engine.

OPERATION (cont.)

8) Before cleaning, repairing, or inspecting, shut off the engine and make certain all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the plug to prevent accidental starting.

9) Do not run the engine indoors; exhaust fumes are dangerous.

10) Never operate the tiller without proper guards, plates, or other safety protective devices in place.

11) Keep children and pets away.

12) Do not overload the machine capacity by attempting to till too deep at too fast a rate.

13) Never operate the machine at high transport speeds on slippery surfaces.

14) Never allow bystanders near the unit.

15) Use only attachments and accessories approved by the manufacturer of the tiller.

16) Never operate the tiller without good visibility or light.

17) Be careful when tilling in hard ground. The tines may catch in the ground and propel the tiller forward. If this occurs, release clutch lever to stop forward motion.

MAINTENANCE AND STORAGE

1) Keep machine, attachments, and accessories in safe working condition.

2) Check engine mounting bolts, and other bolts at frequent intervals for proper tightness to be sure the equipment is in safe working condition.

3) Never store the machine with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, cloths dryers, and the like. Allow the engine to cool before storing in any enclosure.

4) Always refer to the engine operating instructions for important details if the tiller is to be stored for an extended period.

ASSEMBLY INSTRUCTIONS

1) Remove all parts and liners from carton.

2) Slit carton ends leaving power unit available.

3) Attach lower ends of handles (item 31 right and item 34 left) to engine mounts (frame rails) as shown on the exploded drawing, page 9. Use item 51 and item 41 to attach each handle. Do not tighten bolts and nuts at this time.

4) To each handle, assemble a handle tie bar (item 28 left and item 29 right) with handle cross brace (item 26) between them, use item 24 and item 41 on each side. Also attach two cable guides (item 50) with item 48 and item 41 through handle tie bar and cross brace. Do not tighten nuts and bolts at this time.

5) Remove the long bolts and whiznuts on the transmission. Discard the whiznuts. Then connect left and right handle tie bars to the transmission with items 7 and 5. Handle tie bars to be placed on either side of transmission case flange and the bolt to go through both tie bars and secured with the supplied Nylok locknut.

6) Tighten all nuts and bolts installed in steps 3-5.

7) Insert throttle control (item 52) through cable guide (item 50). Attach throttle control to handle with item 33 and item 32. Push throttle control handle down. Push gently forward (toward the engine) on the throttle cable at the cable anchor, then tighten anchor screw.

8) Attach clutch spring (item 43) to clutch lever (item 31B). Then attach the clutch cable chain to the spring.

⚠ CAUTION: ⚠

DO NOT ADJUST CLUTCH WITH THE ENGINE RUNNING

9) Engage clutch lever and check adjustment. With clutch lever held tightly, spring should be slightly stretched (about ¼ inch). If clutch is adjusted too tightly, tiller may still pull when clutch lever is released. If clutch is adjusted too loose, machine may fail to pull when lever is pressed.

   Additional adjustment can also be made by loosening four bolts holding engine to frame (item 10) and sliding engine forward and backward as needed, re-tighten engine mount bolts. This adjustment is almost never needed and should not be made unless all other adjustments fail.

10) Install approximately one pint (.47 litre) of 80/90 EP or 140 weight gear lubricant in transmission fill hole. With tiller frame rails level with the ground, add gear lube until oil level reaches the check hole located on right side of the transmission case. Instruct operator how to check and add oil when needed. The oil level should be checked frequently.

11) Service engine according to engine operating and maintenance instructions furnished with tiller. Special attention should be given to proper installation and servicing of engine air filter assembly.

12) Disconnect spark plug. Grasp pull cord and pull it 6" past cross brace. String cord into eye of pullcord holder (item no. 46). Slip threads through hole on right hand handle above cross brace. Then secure with ¼-20 Nylok Locknut (item no. 5), tighten nut until the eye bottoms out against handle.

MAINTENANCE AND REPAIR SECTION

Proper maintenance includes periodic inspection and lubrication by the operator, using the correct lubricants. This will insure long life of the tiller. All bolts and nuts should be checked often for tightness.

This section of your manual is devoted entirely to maintenance and repair and should be used as a guide when service is performed.

BELT INSTALLATION AND ALIGNMENT OF PULLEYS

1) Whenever a new belt is installed, be sure to examine the grooves of the pulleys for wear. A wide groove of a worn engine pulley will cause slippage of the belt when the clutch is engaged. Replace the pulley if worn.

2) The pulleys must be aligned by sliding the engine pulley in or out so that the belt will travel in a straight line.

3) Be sure to install the belt on the inside of the two front belt guides. If improperly installed, on the outside of the guides, the belt will be quickly damaged, and/or jump off pulleys.

4) Start the engine and test the clutch for proper operation.

5) Reinstall the belt cover.

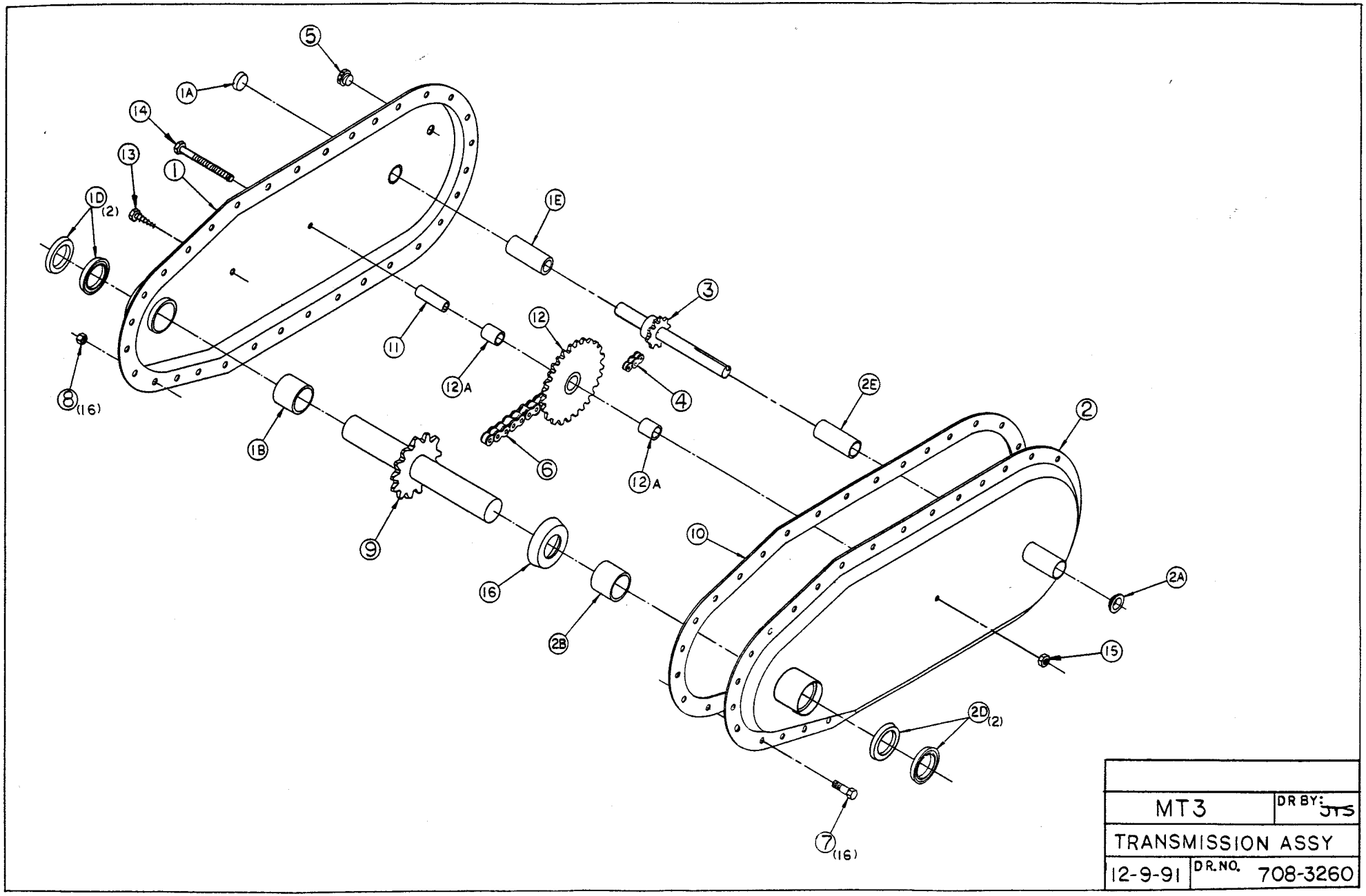
INSPECTION OF THE TRANSMISSION CASE ASSEMBLY

When it is necessary to make internal repairs to the transmission, it could be advisable to take your tiller to an authorized dealer, especially if there are signs of excessive wear. Following are some suggestions that will help to determine the amount of wear.

1) Before removing the transmission case from the tiller, turn the large pulley by hand and observe whether or not the rotor shaft also turns. If it does not, or if the pulley turns freely, check to be certain the square key securing the pulley to the drive shaft is not missing or damaged. This could cause the pulley to slip on the shaft.

2) Turn the large pulley in either direction until all the slack is removed from the chains and sprockets within the transmission. Make a mark on the tine shaft and the outer edge of the large pulley. Then, while observing both the mark on the pulley and the mark on the tine shaft, turn the large pulley in the opposite direction until all internal slack is removed and the mark on the tine shaft just begins to move. The mark on the large pulley should not travel a distance of more than 3 inches (7.6 centimeters) before the mark on the tine shaft begins to move.

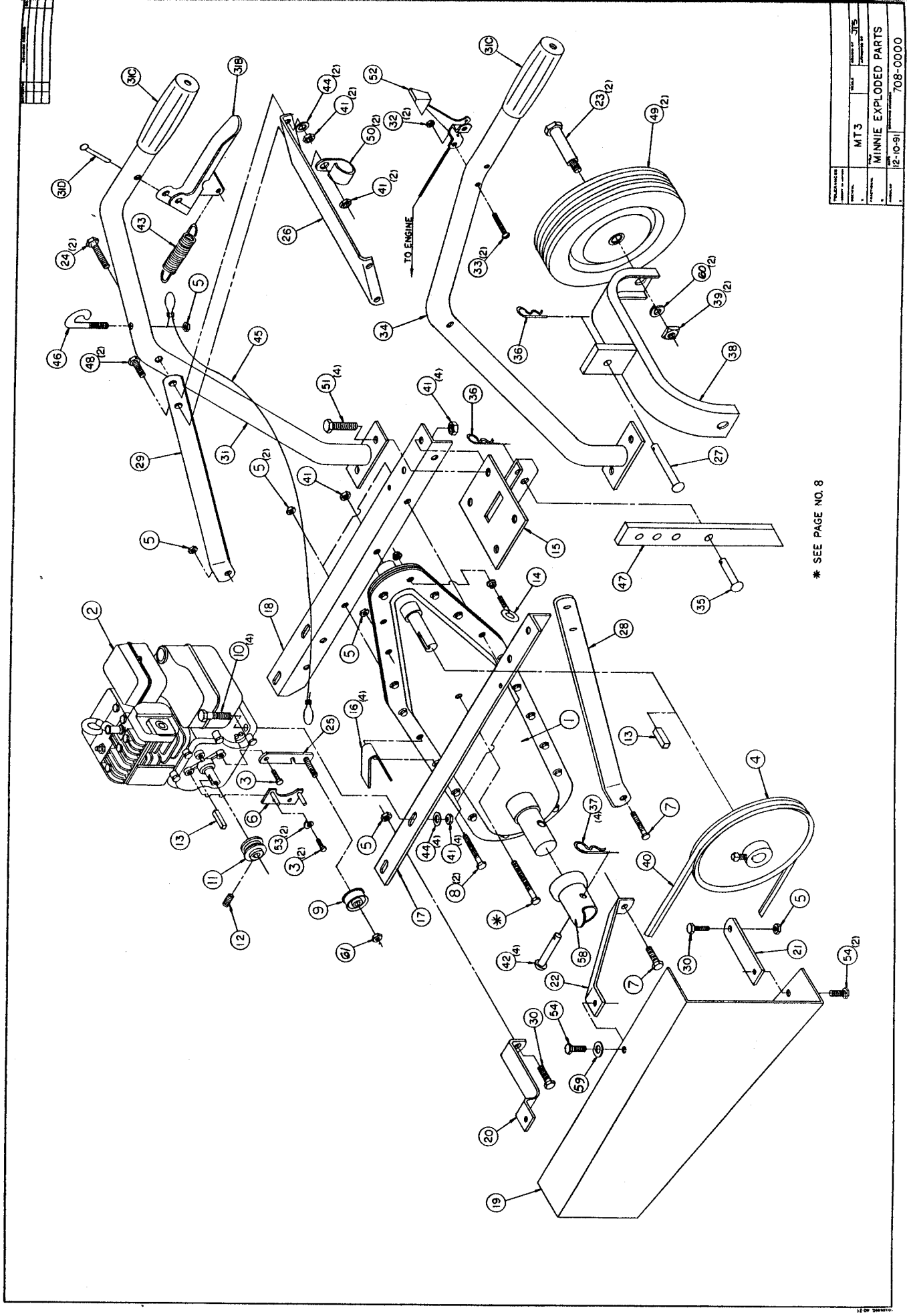
   Any travel of the mark in excess of this indicates excessive wear inside the case of either one or both chains, sprockets, shafts, or bearings. The case should be removed and disassembled for internal inspection.



MT3	DR BY: ~~JTS~~
TRANSMISSION ASSY	
12-9-91	DR. NO. 708-3260

TRANSMISSION ASSEMBLY (PART NUMBER 708-3260)

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	708-3248	R.H. Case Half Assembly (includes 1A-1E)	1
1A	020-0014	Soft Plug	1
1B	708-3231	Tine Shaft Bearing	1
1D	708-3241	Tine Shaft Seal	2
1E	708-3244	Bronze Bearing	1
2	708-3247	L.H. Case Half Assembly (includes 2A-2E)	1
2A	706-0342	Drive Shaft Seal	1
2B	708-3231	Tine Shaft Bearing	1
2D	708-3241	Tine Shaft Seal	2
2E	708-3244	Bronze Bearing	1
3	708-3246	Drive Assembly Shaft	1
4	706-0348	Roller Chain #35-50 Pitches	1
5	020-0011	Oil Plug	1
6	706-1763	Roller Chain #40-40 Pitches	1
7	706-3052	1/4-20 x 1/2'' Whiz Lockscrew	16
8	090-0453	1/4-20 Whiz Locknut	16
9	708-3236	Tine Shaft Assembly	1
10	708-3238	Gasket	1
11	708-3240	Inner Race	1
12	708-3242	Idler Sprocket Assembly (includes 12A)	1
12A	708-3237	Idler Sprocket Bearing	2
13	706-2788	1/4 x 3/4'' Self Tapping Screw	1
14	090-0073	5/16-18 x 2-1/4'' HHCS	1
15	090-0460	5/16-18 Nylok Locknut	1
16	708-3232	Tine Shaft Spacer	1


MT3
MINNIE EXPLODED PARTS
12-10-91
708-0000
TO ENGINE
* SEE PAGE NO. 8

SMT3.5 PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	708-3260	Transmission Assembly	1
3	090-0408	5/16-24 x 3/4" HHCS	3
4	708-3293	Pulley—Transmission	1
5	090-0470	1/4-20 Nylok Locknut	8
6	708-3290	Belt Release Bracket	1
7	090-0060	1/4-20 x 1" HHCS	2
8	090-0405	1/4-20 x 2-1/4" HHCS	2
9	030-0111	Idler Pulley	1
10	090-0090	5/16-18 x 1-1/2" HHCS	4
11	706-1368	Pulley—Engine	1
12	080-0053	5/16-18 x 5/16" Set Screw	1
13	100-0018	3/16" x 3/16" x 1" Shaft Key	2
14	090-0411	1/4-20 x 2-1/2" Eye Bolt	1
15	708-3361	Hitch	1
16	708-3267	"U" Shaped Spacer	4
17	708-3402	L.H. Engine Mount	1
18	708-3403	R.H. Engine Mount	1
19	708-3400-BK	Belt Cover	1
20	708-3302	Bracket—Lower Front	1
21	708-3308	Bracket—Lower Rear	1
22	708-3315	Bracket—Upper	1
23	708-1871	3/8-16 Shoulder Bolt	2
24	090-0091	5/16-18 x 1-3/4" HHCS	2
25	708-2978	Idler Arm	1
26	706-3406-RD	Cross Brace	1
27	706-1024	3/8" x 2-1/4" Clevis Pin	1
28	708-3162	L.H. Tie Bar	1
29	708-3163	R.H. Tie Bar	1
30	090-0012	1/4-20 x 3/4" HHCS	3
31	706-2637	R.H. Handle Assembly (includes 31B, 31C, and 31D)	1
31B	706-3254	Clutch Control Lever	1
31C	706-0630	Handle Grip	1
31D	706-2791	1/4 x 1-3/8" Rivet	1
32	706-1539	10-32 Kep Nut	2
33	090-0161	10-32 x 1-1/2" RD HD Machine Screw	2
34	706-2632	L.H. Handle Assembly (includes 31C)	1
35	708-3251	3/8" x 1-1/2" Clevis Pin	1
36	706-0924	1/8" Hair Pin	2
37	100-0015	3/32" Hair Pin	4
38	708-3173	Wheel Frame	1
39	090-0285	3/8-16 Square Nut	2
40	030-0001	V-Belt	1
41	090-0460	5/16-18 Nylok Locknut	12
42	708-3211	5/16" x 1-19/32" Clevis Pin	4
43	706-0152	Clutch Control Spring	1
44	090-0233	5/16" Flat Washer	4
45	706-2250	Clutch Cable Assembly	1
46	090-0467	Pull Cord Holder	1
47	708-3252	Rear Skid	1
48	090-0066	5/16-18 x 3/4" HHCS	2
49	708-3255	Wheel	2
50	706-2243	Cable Guide	2
51	090-0088	5/16-18 x 1" HHCS	4
52	706-2666	Throttle Control w/Cable	1
53	090-0394	5/16" Med. Split Lock Washer	2
54	090-0052	1/4-20 x 1/2" HHCS	2
55	708-3156	R.H. Outside Tine	1
56	708-3155	L.H. Outside Tine	1
57	708-3154	R.H. Inside Tine	1
58	708-3153	L.H. Inside Tine	1
59	090-0378	1/4" Med. Split Lockwasher	1
60	090-0228	3/8" Med. Split Lockwasher	2
61	090-0042	3/8"-16 Gripco Locknut	1

LIMITED WARRANTY

This Snapper product found, in the judgment of Snapper, to be defective in material or workmanship, will be repaired or replaced by an Authorized Snapper Service Dealer without charge for parts and labor.

The Snapper product including any defective part must be returned to an Authorized Service Dealer within the warranty period. The expense of delivering the product to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be borne by the owner. Snapper's responsibility is limited to making the required repairs or replacements only. No claim of breach of warranty shall be cause for cancellation or rescission of the sales contract of any Snapper product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by an Authorized Service Dealer.

This warranty is limited to five years from the date of original retail purchase for a Snapper product that is used for consumer purposes or 90 days for commercial and rental use.

This warranty does not cover any product that has been subject to misuse, abuse, neglect, negligence, or accident, or that has been operated in any way contrary to or inconsistent with the operating instructions as specified in the owner's manual. The warranty does not apply to any damage to the product that is the result of improper maintenance, or to any product or parts that have not been assembled or installed as specified in the owner's manual.

The warranty does not cover any product that has been altered or modified. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the judgment of Snapper are either incompatible with Snapper products or adversely affect its operation, performance or durability. This warranty does not cover engines, electric starters, batteries, and tires which are warranted separately by their manufacturer and for a different period of time.

Snapper reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

THE DURATION OF THE LIMITED WARRANTY IS FIVE YEARS CONSUMER, 90 DAYS COMMERCIAL AND RENTAL USE. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER. SNAPPER SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, EXCEPT THE LIMITED WARRANTY DESCRIBED ABOVE, ALL IMPLIED WARRANTIES (MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE SPECIFICALLY DISCLAIMED.

SNAPPER ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, EXPENSE FOR GASOLINE, OIL, EXPENSE OF DELIVERING THE PRODUCT TO AN AUTHORIZED SERVICE DEALER AND EXPENSE OF RETURNING IT BACK TO THE OWNER, MECHANIC'S TRAVEL TIME, TELEPHONE OR TELEGRAM CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY REPAIRS ARE BEING PERFORMED, TRAVEL, LOSS OR DAMAGE TO PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME OR INCONVENIENCE.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.